L-II MC-1246/1
Time: 02:00 CDT, 27:07:00 GMT
6/20/73

PAO This is Skylab Control at 7 hours Greenwich mean time on the 27th day of the first manned mission of the Skylab program. Skylab is nearly within range of the Goldstone station, at which time Cap Com, Dr. Bill Thornton, will put in a wake-up call. The Flight Director on this shift is Don Puddy. We'll stand by for the crew wake-up call.

PAO This is Skylab Control at 7 hours 5 minutes Greenwich mean time. The Flight Surgeon has informed the Flight Director that he believes the crew is still sleeping soundly, so Flight Director Don Puddy has decided to allow the crew to continue sleeping through this stateside pass and put in a wake-up call just prior to loss of signal at Bermuda. We'll continue to leave the line up should one of the crewmen awaken and give us a call.

END OF TAPE

SL-II MC-1247/1
Time: 02:16 CDT 27:07:16 GMT
6/20/73

CC Skylab, Houston. AOS Bermuda 3 minutes.
PLT Good morning.
CC Morning, Paul.
CDR Just be a nice guy and let me sleep in a little.
PAO This is Skylab Control at 7 hours 21 minutes Greenwich mean time. Bermuda has loss of signal. However, Canary Island station will pick up the spacecraft very shortly with overlapping coverage through Ascension. We'll continue to stay up for that pass.

END OF TAPE

SL-II MC-1249/1
Time: 03:05 CDT 27:08:05 GMT
6/20/73

PAO This is Skylab Control at 8 hours 5 minutes Greenwich mean time. Skylab coming up on acquisition at Carnarvon with overlapping coverage through Honeysuckle. We'll stand by.

PAO This is Skylab Control. Part of the postsleep activities today includes the taking of blood samples from all three crewmen.

CC Skylab. AOS 7 minutes Honeysuckle.

PLT Thank you, Bill.

CC LOS 1 minute. Hawaii at 08:27.

PLT Roger, (garble)

PAO This is Skylab Control at 8 hours 15 minutes Greenwich mean time. Skylab is beyond the range of the Honeysuckle station now. Guam will acquire in 12 minutes. At 8 hours 15 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II PC-1240/1
Time: 03:25 CDT, 27:08:25 GMT
6/20/73

PAO This is Skylab Control at 8 hours 25 minutes Greenwich mean time. Skylab is almost within range of the Hawaii station, not Guam as previously reported. We'll stand by for conversation through this station.

CC Skylab, AOS 8 minutes Hawaii.

PLT Roger, Bill. Hey, sometime today or - how about asking photo people how many photos are required for the Hasselblad for the fly-around.

CC Wilco.

PLT Thank you.

CC LOS in 1 minute. Goldstone at 08:40. And, Paul, we feel that you should leave a full Hasselblad mag for the fly-around. It'll probably take something more than 50 pictures.

PLT Thank you.

END OF TAPE

SL-11 MC-1251/1
Time: 03:36 CDT 27:08;36 GMT
6/20/73

PAO This is Skylab Control at 8 hours 37 minutes Greenwich mean time. Hawaii has loss of signal. Goldstone will acquire in slightly under 3 minutes. We'll continue to stay up through this short LOS. Paul Weitz has been advised to reserve a full magazine of film for the Hasselblad camera for photography during the flyaround of the Saturn workshop after undocking on Friday.

PAO A news conference with the crew is scheduled for the stateside pass following this upcoming one. That news conference scheduled at a Greenwich mean time of 10 hours 18 minutes to about 10 hours 35 minutes. That's 5:18 to 5:35 a. m. central daylight time. CAP COMM will read up questions that have been prepared by the news men covering the mission at the Johnson Space Center. And it will be televised in real time. We should have acquisition at Goldstone now. We'll stand by.

CC Skylab. AOS for 5 minutes.

CDR Say, Bill; CDR.

CC Go, CDR.

CDR Okay, that Hasselblad - it doesn't sound like you're aware that's a 170-picture magazine. We have about 60 pictures left on one magazine and 170 on another, and we would like to use as much as possible for Earth terrain photography, and if 50 or 60 is good enough, we'll probably shoot up what's in this magazine and work our way into the other magazine until we got about 60 or 70 left.

CC We copy that and agree, CDR.

CC CDR, Houston.

CDR Go ahead.

CC Did you get the S009 mal done last night?

CDR Yes. It's on B channel.

CC Copy.

CC We'll be LOS in approximately 30 seconds. AOS Bermuda at 08:49.

PLT Roger.

CC And be advised that getting things off channel B is fairly slow down here, so if there's anything that you feel that is in any way urgent between now and undocking, you might give us a direct call on it.

PLT Wilco.

PAO This is Skylab Control at 8 hours 49 minutes Greenwich mean time. Flight Director Neil Hutchinson is preparing to relieve Flight Director Don Puddy. The new CAP COMM will be Astronaut Henry Hartsfield. And the backup pilot for this mission, Bruce McCandless, is also on the CAP COMM console. Flight Director Puddy estimates his change of shift news conference for 4:30 a. m. central daylight time, 4:30 a. m. central daylight time.

END OF TAPE

TIMELINE - RUN DOWN

SL-1I MC-1252/1
Time: 03:50 CDT, 27:08:50 GMT
6/20/73

PAO - 4:30 a.m. central daylight time for the Change-of-shift conference in the Johnson Space Center News Center.

PLT Roger.

PAO And Skylab is in acquisition at Bermuda.

CDR Bill, CDR.

CC Go, CDR.

CDR Sometime today, would they work up approximately how far we're going to shift our watches tomorrow to get on the deactivation time line. And just give me a little rundown on that today, so I know what to expect - are we going to set our watches ahead or behind, and when do they want to come up with the clock time, do we get a wake-up to it, do we want to - you know, how do we want to work that little deal?

CC Wilco, Pete.

SPT Houston, SPT.

CC Go, SPT.

SPT Roger. I'd like to have some words on why we're doing M171 in mode 1 this morning. It's something we have never used in training, has no baseline data on it, and I understood it wasn't supposed to work very well.

CC Roger all that. Stand by half.

CC Joe, in essence, this is a troubleshooting procedure. They're trying to get some information operating in this mode that can be applied in its normal operation. What you just said is all essentially correct.

SPT Okay, we'll talk about it afterwards.

CC This came up for quite a bit of discussion here.

CDR It came up for quite a bit up here, too.

CC We copy.

CDR Houston, CDR.

CC Go, CDR.

CDR On these contamination photos, I assume they want to use the 35-millimeter camera that is to be developed for color interior rather than color exterior.

CC It is the 35-millimeter, and stand by half on the film.

SPT Houston, SPT.

CC Go, SPT.

SPT On reading my message 2712 about drug stowage - does that mean that I'm not to bring ED-31 home?

CC Stand by half.

CC We're going LOS here in about 30 seconds. We'll have you Canary in approximately 14 minutes. Correction on that - we have you at Ascension at 09:06, and we'll have the answers for those questions at that time if we don't get them before.

CDR Okay.

END OF TAPE

PAO This is Skylab Control at 9 hours 1 minute Greenwich mean time. Bermuda has had loss of signal and Ascension will acquire in about 4 minutes. We'll stay up and wait for - -

PAO This is Skylab Control. While we're waiting for Ascension, we'll repeat the announcement on the Change of Shift News Conference with Flight Director Don Puddy, the off-going Flight Director, scheduled for 4:30 a.m. central daylight time in the JSC News Center; 4:30 a.m. central daylight time, for a Change of Shift News Conference in the News Center, the Johnson Space Center. We're about 2 minutes away from acquisition at Ascension. We'll stand by.

(garble)

CC Skylab, Houston through Ascension for 10 minutes.

CDR Good morning, Henry.

CC Hello, there. Well, you guys did it again. Another outstanding job with the hammer.

PLT Yes. Give us a hammer and a place to stand and we'll fix anything.

SPT You're a little late this morning, Hank. You got to sleep in, huh?

CC Well, it depends on how you look at it.

SPT Right.

CC CDR, Houston. In answer to your question about how we do the watches. What we're thinking about now is just setting all the wristwatches ahead about 4 hours tomorrow morning and that will put us on a time line. We're going to get a little message up to you later on today with all the details.

CDR Okay. We just do that when we wake up, jump from 07:00 to about 11:00.

CC Roger. That's what we're thinking about.

CDR That sounds real good.

CC Skylab, for the CDR. In answer to your question on the film, you can use the numbers on the pad, or if you want to use the footmeter, use a ASA of 160.

CDR That doesn't really answer my question, Henry. My question was, we have two 35-millimeter cameras in here. One we've been exclusively shooting out the window with it - they both have color interior in them - one we've been exclusively shooting out the window; the other one we've been exclusively using with the flash. Now I assume the one with the flash is going to get exposed at 500 ASA, cause that's what it says on the can. That may not be true, seeing they're all flash pictures. And the other one is that the other one is going to get exposed - developed at ASA 160.

SL-II MC-1253/2
Time: 04:00 CDT, 27:09:00 GMT
8/20/73

CDR Now which camera do you want me to use. The one that we've been shooting out the window, or the one that we've been using inside with the flashgun? That's my question.

CC We'd like you to use the one that's been using out the window. And we believe that's 03.

CDR Okay. I already did, now. And that's going to be ASA 160 development and if I use the spotmeter, I'll set it for ASA 160. Okay. Thank you.

CC That's correct, Pete.

END OF TAPE

SL-II MC-1234/1
Time: 04:14 CDT 27:09:14 GMT
6/20/73

CC Skylab, Houston, for the SPT. In answer to your question earlier, do you want 8031? It is our plan to bring it back, but there's some confusion here as to when and where and how we're going to do it, as you can see from the message, and we're about 40 seconds from LOS. Carnarvon will be coming up at 39.

SPT Okey, Hank. I'll work it out and let you guys know what we're going to do.

PAO This is Skylab Control at 9 hours 17 minutes Greenwich mean time. Skylab out of range from Ascension now. The next station to acquire will be Carnarvon, Australia in 21-1/2 minutes. At 9 hours 18 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1255/1
Time: 0425 CDT 27:09:25 GMT
6/20/73

PAO: This is Skylab Control at 9 hours 25 minutes Greenwich mean time. Flight Director Don Puddy is en route to the News Center for the Change of Shift Briefing. That news briefing should begin within the next few minutes. Should we acquire at Carnarvon during the news conference, we'll tape and play back any conversation at the earliest opportunity. To repeat, the Change of Shift News Conference with Flight Director Don Puddy will begin within the next few minutes. At 9 hours 26 minutes, this is Skylab Control.

END OF TAPE

PAO This is Skylab Control at 9 hours 44 minutes Greenwich mean time. We're back live now on air-to-ground. We've got approximately 1 minute of tape. We'll play that at the earliest opportunity. We'll stay up live now through Carnarvon.

CC SPT, Houston. Not to belabor the point but just give you a few more words on this ED-31. The message we sent up last night should have been a little more - should have been a little better explanation there. It shouldn't have said, "disregard," it should have said that we're going to do this later. We made a goof I guess in that we modified the experiments checklist to indicate the stowage of ED-31, whereas we should have been including it in the deactivation checklist. And that's the - the message this morning should have explained that a little more, instead of leading you to believe that we weren't going to bring it home. We'll - the deactivation information we'll send up will have this the content of that page 1-10 that we told you disregard - it'll be there. And also, some more words on how to tie it in the command module.

SPT Okay.

CC Skylab, Houston. About 1 minute from LOS. Guam at 53 and for info - I don't know whether it was (garble) up enough this morning but we're on gyros Y-1 and Y-3. We had another integral failure on Y-2 last night.

SPT Okay.

PAO This is Skylab Control at 9 hours 50 minutes Greenwich mean time. We've had loss of signal at Carnarvon. We have about a minute and 20 seconds in tape during the news conference. We'll play that and then go on into the Guam acquisition live. Let's play the tape now.

CC Skylab, Houston through Carnarvon for 10 minutes. And for information, we'll be commanding the drift update to Y-2 gyro.

SPT Okay, Houston. This is the SPT and I've got a choice for the medical people on returning the stuff that needs to be chilled. I can put everything in one large overcan with no heat sink, or I can use two large overcans and have a heat sink in each. I'd like to know which one they want. That's all I need to know.

CC Okay. I'll get an answer.

SPT Very good.

CC SPT, Houston. What we want is everything in two cans with a heat sink in each. And regarding ED-31

SL-II MC-1256/2
Time: 0443 CDT, 27:09:43 GMT
8/20/73

CC there is a stow message onboard that you got several days ago 2329 it looks like - 2325 Bravo. And we'll also be sending up some stuff tonight on deactivation checklist. So we'll have some more words on ED-31.

SPT Okay. Well, I hope don't think I need any. The confusing thing was that this morning's pad they ignored that ED 13 - ED-31 stuff that you got before. But I'll just go ahead and put everything in two cans.

CC Roger. That message was confusing and we apologize.

SPT Okay. Just don't send me any more now.

PAO This is Skylab Control. That is the end of the tape. We'll stand by live now for acquisition at Guam in about 1 minute.

END OF TAPE

CC Skylab, Houston through Guam for 9 minutes.

CC Skylab, Houston. We sent you up a message on day 27 transfers. I got one small change for that whenever it's convenient.

SPT Go ahead.

CC Okay. Under W-748, where it says "med kit bag, place drugs, and etc.," we want to delete the reference to the drugs in the IMS checklist. It should read, "med kit bag, place anti-fog ampules, etc."

SPT Roger.

CDR Hey Hank, CDR.

CC Go ahead.

CDR Take a note to talk to me when I get back about locker A-8 and all the cushions in it, where they're supposed to go, and for the back part of A-8 H Alpha 1, SO 56,52 and (garble) 54 and all that business. It's kinda goofed up.

CC Okay, will do, Pete.

CDR (Garble) the lockers and the straps don't match is what I'm trying to say. And I've been puzzling over it for a long time, and I think I'm right.

CDR Hey Hank, CDR.

CC Go ahead.

CDR I faded out. They put the SO56 cushion where the H Alpha 1 cushion should have been and vice versa. Now once I got that sorted out, it all makes sense.

CC Okay, copy.

CDR The reason that happened is both cushions look to me like they're almost identical. And they have three black alinement marks to line up with three white alinement marks in each place, and they're interchangeable. And somebody just got them in backwards.

CC Okay. You think it's gonna work all right once you got it reconfigured there?

CDR Now that I got the cushions sorted out, it all matches up with the drawings on 3-5, and everything is super.

CC Okay.

CC Skylab, Houston. One minute to LOS. Coldstone will be coming up at 19, and we've got your press conference there. And we'll be using a procedure like we used before. We got a list of questions. As soon as we give the AOS, they'll probably start out on the questions.

PAO This is Skylab Control at 10 hours 3 minutes Greenwich mean time. Guam has loss of signal with Skylab. We're 15 minutes away from acquisition at Coldstone. During this next pass over the United States the crew will

participate in a news conference, which will be televised live and in real time. CAP COMM Henry Hartsfield will be reading up questions prepared by newsmen covering the mission. We'll come back up just prior to acquisition at Goldstone. At 10 hours 4 minutes Greenwich mean time, this is Skylab Control.

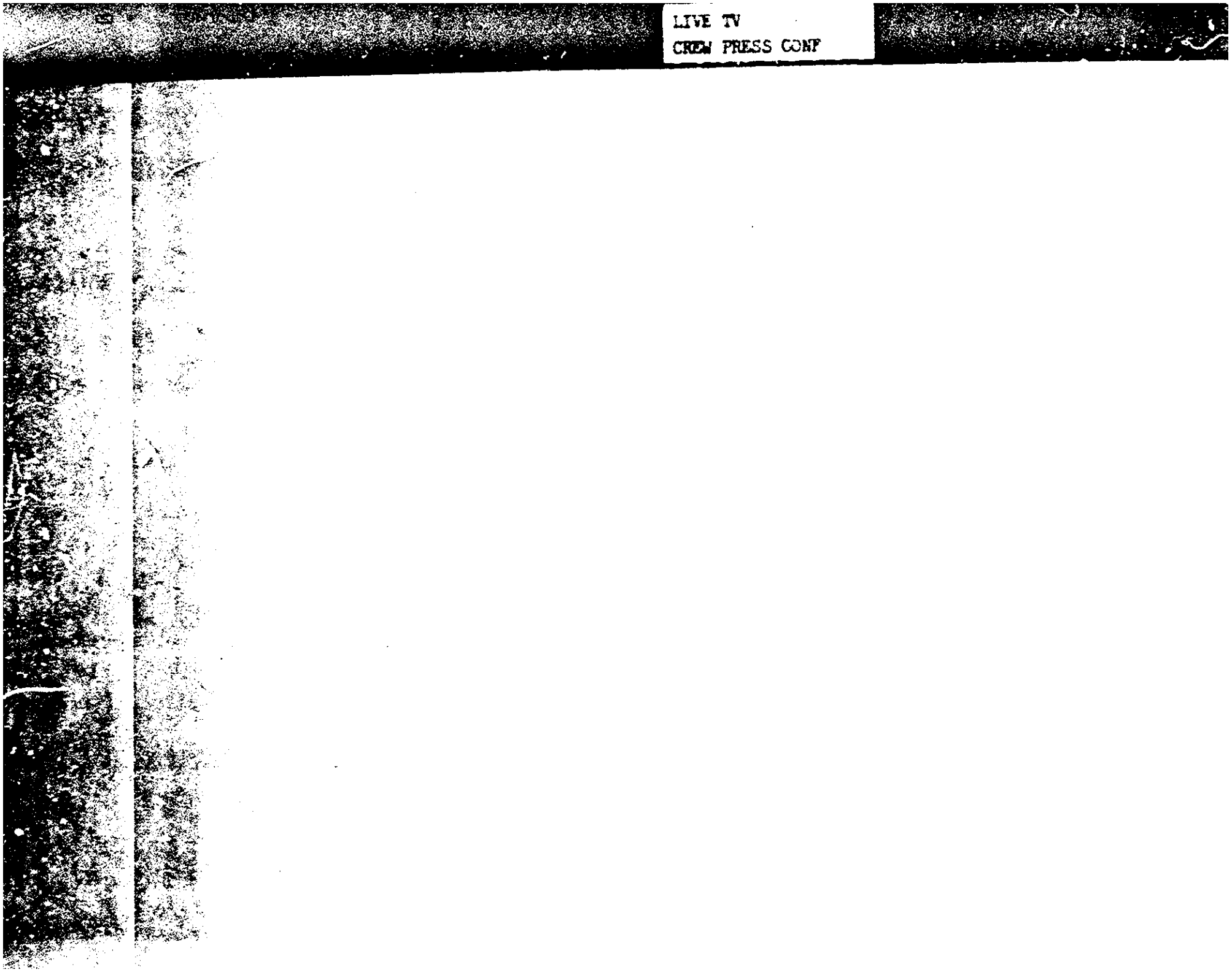
END OF TAPE

SL-IV MC-1198/1
Time: 05:15 CDT, 27:10:15 GMT
6/20/73

TAC ... This is Skylab Control at 10 hours 15 minutes Greenwich mean time. We're about 3 minutes away from acquisition at Goldstone. A message was sent up to the crew late yesterday by teleprinter with procedures for leaving the orbital workshop and for entering the command module. Under the title: "Goin' Home", Goin' Home, this is the message procedure for leaving OWS. One, sweep out OWS; two, turn refrigerator on low; three, turn out lights; four terminate paper delivery - teleprinter paper, that is; five, set air conditioning thermostat; six, inform any nearby neighbors that you'll be gone at least a month; seven, put garbage out, and pray for a pickup; eight, pack carefully - be sure to include clean pair of socks; nine, put the cat out. Procedure for entering the CSM: one, clean feet before entering CSM; two, sit down and fasten seat belts; three, adjust rear-view mirror; four, release emergency brake; five, exercise particular care in backing up; and six, drive carefully and go straight home. We'll stand by now for acquisition at Goldstone and the start of the in-space news conference.

END OF TAPE

LIVE TV
CREW PRESS CONF



SL-II MC-1259/1
Time: 05:17 CDT, 27:10:17 GMT
6/20/73

CC Skylab, Houston stateside for about 19 minutes, and we've got a picture.
PLT (Garble)
PLT (garble) on the line (garble)
PLT Houston, Skylab. Do you read?
CC Roger. Read you loud and clear.
PLT Okay, that's the (garble) we can do.
CC That was a little bit weak.
PLT Well, I'll get my (garble) away from it. How's that?
CC Okay, that's a little better.
PLT How's that, Hank?
CC Hey, that's a lot better.
PLT Ah ha.
PLT Oh, you've made a great breakthrough in lightweight headset technology. It took us 27 days to figure out you're supposed to talk into the spongy part.
CC You fellows ready to answer a few questions this morning?
PLT Yes.
CC Okay, the first one is for Dr. Joe Kerwin, the first medical doctor in space. As far as you can tell now, what affects have you noticed from weightlessness? Does there appear to be a leveling off effect as far as zero-g changes are concerned?
SPT Well, right now the score is man 3, space nothing, but it's a little early in the game. There appears to be a leveling off. In fact, there appears to be little or no change in some of our experiments, and there appears to be some change in the others - possibly still continuing. I guess let's wait until we get down and look at the data before we make any rash decisions, but I'm very encouraged.
CC Joe, you're sliding in and out of view. There you are.
SPT I'm also done answering that question. You can go to the next one.
CC Okay, for Commander Conrad: Please give us your assessment of the mission and what you feel have been your most significant accomplishments, especially from a scientific view point.
CDR I guess our most significant accomplishment, from the point of view of where we started this mission on May the 15th, was that we have now, I would say, a 90 percent up-operating space station to turn over to the SL-III crew. And probably even more significant in my mind and also to go along with what the Doctor said but I'll have to wait until the people on the ground look at our - our physical data.

SL-II MC-1259/2
Time: 05:17 CDT, 27:10:17 GMT
6/20/73

I believe that man has once again proved that he can operate efficiently, well, and happily in space in the operation of a space station. Now I think that also con[illegible]utes to the scientific end of the thing. I have no idea what they're going to find on our data. We did get a flare, we've operated the ATM, we've operated all the experiments to the best of our ability - all of those we didn't do perfectly, but everybody has a learning (garble). And I think we've proved the timeline and only time will tell the exact scientific returns from the experiments that we've performed.

CC Roger. Would all three of you comment briefly on how you like the Skylab food?

SPT I like it. It's quite palatable. It's been easier to eat than I anticipated it would, and I've been eating more that I thought I would.

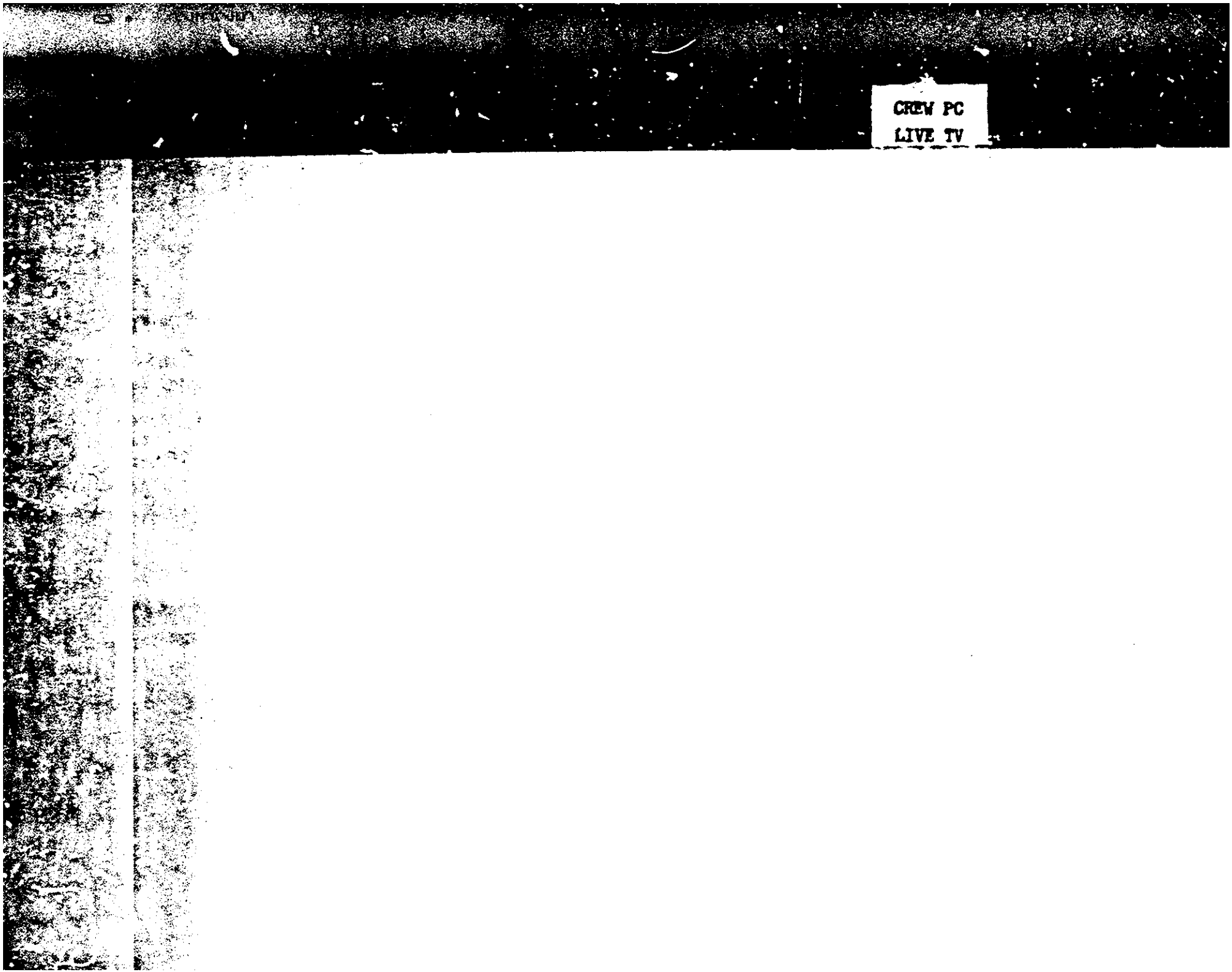
CDR There were three items that I didn't like on the ground, and I still don't like them up here, although I managed to get them down. I think one or two other items that I thought that I would like, I just don't really care for up here, and some that I didn't care for too much on the ground came in pretty strong up here. But I managed to get it all down. Plus I've found that I've had to eat more, and that puts me a position of eating my own words about the food right now because I never thought we'd eat this much. And frankly, I could probably eat a little bit more of the food, and it's good food.

LT That last statement was made by the butter cookie kind of Skylab. (laughter) There are some complaints that I have about the food, and that in itself is very encouraging, because it means the living up here is not so rough that you don't have time to bitch about something.

CC For Commander Conrad: Do you notice any difference in your physical condition compared with the end of your previous missions?

CDR Well, again the doctors may make me eat my words, but I have the feeling at the end of 28 days that I'm going to be in better physical shape than when I came back from any one of my three previous flights, except maybe Gemini 11, which was too short duration.

END OF TAPE


CREW PC
LIVE TV

CDR Well, a team of doctors may make me eat my words, but I have a feeling at the end of 28 days that I'm going to be in better physical shape than when I came back from any one of my previous flights, except maybe Gemani 11, which was too short a duration. I'm certainly, right now, feeling one heck of a lot better than I did at the end of 8 days of Gemini 5 just say before retro-firing Gemini 5, because that was complete confinement. And I now have a 28-1/2 inch waist, and I started out with about a 30. And I've lost a little around the legs, and I don't believe I've lost any in my arms. I think with the bike up here, which I've found that I absolutely have to ride every day and want to ride to get exercise, I think I'm in as good a shape right now almost as when I left on May 15.

CC That May 25th.

CC Okay, for any one. What is the biggest problem you think that Captain Bean and his crew will face on their 56-day flight?

CDR We've been trying to kick it around, and I can't put my finger, I don't think any of us can put our finger on anything. I think the fact that Captain Bean and his crew are three individuals different than the three of us, perhaps what we like they won't like, and perhaps what we didn't they will like. And I would hesitate to make any guesses, for Captain Beano, what he's going to like or dislike up here, or his crew.

CC You were coming in pretty weak that time, Pete. We've got a related question for all three of you. Please tell us of any particular suggestions you plan to make to the follow-on crews as a result of your experiences.

PLT Well, that's a pretty tough one to answer here, Hank. I don't think I have any general suggestions. We're going to go down and we're going to debrief them. I plan to take Jack by the hand and sit down with him and talk to him as long as he wants. And walk through the trainers, and just kind of jog my memory, and just tell him the things that I found out and the way we did things. And that's all there is going to be, a report to him, and it's going to be up to him to accept them or disregard them as he sees fit.

CDR I generally think that is true. By walking through with them, we will at least get them over the learning curve that we had. And as I said, before we even flew this flight, the idea for us was to get this thing going, find out how long it took to do the various experiments, and come down and give those

SL-11 MC-1260/2
Time: 05:24 CDT, 27:10:24 GMT
6/20/73

guys a super-good timeline so that they will be more efficient than we were, and they should be. I think that right now, the last couple of days, we were pretty well at our peak of getting things done, and we get around this spacecraft pretty darned well now.

SPT Right. One of the things we're going to tell them is don't worry about this, don't worry about that. One of the things that - - it is to the job training. I think I'll be able to go back and tell the guys that if you can run the ATM in training, you can run it up here. If you can do the medical experiments in training, you can do them up here. You get used to the differences - to the different body English that you need. The hardware, by and large, is in (garble) shape. The procedures, by and large are in great shape. We've been debriefing day by day during the flight. And I think the most important thing we have to say to them is to give them a pat on the back, and say good luck.

PLT I want to add one thing to that, Hank. I can't say too much for the fidelity (garbie)By having the fidelity of the trainers that we have - (garble) tell the difference and it really paid off. The things that are easy to do in the trainer are easy to do here like 80 percent of the time. And the things that are difficult to do in the trainer are likewise here.

CC Okay, we have a little comm problem now. I'll get the next couple of questions here in a minute.

END OF TAPE

[redacted]

[illegible] looks like we got all them problem licked. For Paul Weitz, do you feel that Skylab systems are in good enough shape to support the two 56-day missions for their full duration?

PLT — You betcha.

CC — Okay. The last question for each one of you; what has been the most fun for you in living in Skylab and did you get any surprises from living in weightlessness?

CDR — Well if you want to get technical, perhaps disorientation and after a few moments in here it all went away. And you can get yourself disoriented a little bit, but it's only because of zigging around in zero g. And, of course, that to me is fun (garble).

CC — You're dropping out on us.

SPT — We're just dropouts. I'll bet after this Skylab experience, you couldn't (garble) Apollo spacecraft for 2 weeks. The size of this thing and the fact that, every time you have to go from here to there it's a little adventure. It's just been terrific. That and looking out the window are endless sources of delight that I - I don't think we could ever exhaust. I thing they'll sustain Al Bean, and Jerry Carr and their troops throughout their 56-day (garble).

SC — There have been many surprises and I guess the main ones have been (garble) what Pete said.

SC — (Garble).

CC — Roger. That was the last question. We've got about 4 minutes left here. Have you got any last comments you want to make?

CDR — Yeah. I'd like to say publicly how much we appreciated the support from the ground. Especially with all the last-minute things that were done to put this spacecraft back in shape, all the EVA work. And although we laughed and kidded about banging CBRMs with hammers and so forth, it all worked. The support from the ground has been fantastic.

SPT — Second and shortly, what I was going to say was, medically and subjectively, what has been such a pleasant big surprise to me is how nice we feel. We're able to get up in the morning, eat breakfast and do a day's work. I'm tremendously encouraged about the future of long-duration flights for that particular reason. Guess that's it.

CDR — See you on the ground.

CC — Okay. And thanks for the nice words. We've got about 3 minutes left here before LOS.

END OF TAPE

[illegible] ON LINE NEWS CORP
[illegible] RAD, NEW ARTICULAS

SL-II MC-1262/1
Time: 05:35 CDT, 27:10:35 GMT
6/20/73

CC Skylab, Houston; one minute to LOS, Carnarvon at 17.

SC Roger. Say, Hank. (garble) Last night I bet you that one of (garble) cleaned up in the stowage was where to put the TV power cable on the operative-good TV when we stowed it. Be advised that the place that we use it the most is the 642 panel, and I'm going to leave it plugged into the 642 panel, neatly wrapped up. Okay?

CC Roger. Copy.

SC Thank you.

PAO This is Skylab Control at 10 hours 38 minutes Greenwich mean time. Skylab is beyond Bermuda's Range now. The next station to acquire will be Carnarvon in about 38-1/2 minutes. Communications during the latter part of that news conference were bad due to the look angles on the antennas at Bermuda. We'll come back up just prior to acquisition at Carnarvon. At 10 hours 38 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-1263/1
Time: 06:15 CDT, 27:11:15 GMT
6/20/73

PAO This is Skylab Control at 11 hours 15 minutes Greenwich mean time. Skylab coming up within range of the Carnarvon Station. We'll stand by for conversation there.

CC Skylab, Houston; through Carnarvon 7 minutes.

CC And Skylab, we'll be having a data recorder dump this site.

SC Thank you.

PAO This is Skylab Control. Pete Conrad should be in the process of stowing the S183 ultraviolet panorama experiment at this time. That experiment has been in the antisolar scientific airlock. He'll take it out of the airlock and stow it.

PAO Joe Kerwin and Paul Weitz are involved in the M092 and the M171 medical experiments, the lower body negative pressure and the metabolic activity, with Weitz as the subject and Kerwin as the observer.

PAO Later today in about 4 hours, Weitz, assisted by Kerwin, will install the S149 particle collection experiment in the antisolar scientific airlock. And that experiment will be run throughout the remainder of the day.

CC Skylab, Houston. We're about 1 minute to LOS. Guam will be coming up at 31.

SC Okay, Houston. We're (garble) the last M092.

CC Roger. Copy.

END OF TAPE

SL-II MC-1264/1
Time: 06:24 CDT, 27:11:24 GMT
6/20/73

PAO This is Skylab Control at 11 hours 25 minutes Greenwich mean time. Carnarvon has had loss of signal. Guam will acquire in about 5-1/2 minutes, and we'll come back up then. At 11 hours 25 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1265/1
Time: 06:29 CDT 27:11:29 GMT
6/20/73

PAO This is Skylab Control at 11 hours 29 minutes Greenwich mean time. Skylab is coming up on Guam acquisition now, we'll stand by.

CC Skylab Houston, through Guam, 6 minutes.

PLT Roger.

CC CDR Houston. You're going to be headed up to look at something here about 11:45, a dump. And I've got several things I'd like to get you to do at the ATM console if it's convenient.

CDR All right, hold it just a second.

CDR Okay Hank, I'm there right now. Go ahead.

CC Okay. What we'd like you to do Pete, is bring up the panel and change the canister roll to plus 60 arc minutes. The reason we're doing this is if it's right exactly at zero, there's a remote possibility that the ATMDC will misinterpret the exact zero as being 180 and try to move the canister. Of course the next time it will pick it up, but we're just trying to avoid that possibility.

CDR Okay, what do you want me to do?

CC We want to roll the canister to 60 arc minutes.

CDR Plus 60, okay.

CC And the other 2 items while you're there, we'd like you to bring up the star tracker, the pad is still good. And we also want to look at the BAT 15 talkback, and see what it's doing now.

CDR Hey, there's plus 60.

CC Thank you sir.

CDR Yes, I saw the BAT VOLT talkback.

CC Say again, Pete.

CDR CBRM 15 I saw the BAT VOLT talk-back.

CC Roger, copy. And the other thing is bring up the star tracker.

CDR In work.

CC CDR Houston. Stand by on the star tracker. We're in a dump now, you're not going to be able to get it.

CDR Okay.

CC Sorry about that.

CDR Well I may catch this dump when it comes out. It is at the right angle now.

CC Okay.

CDR Anything else?

CDR Anything else you want done?

CC No, that ought to do it, Pete. Thank you very much.

SL-II MC-1265/2
Time: 06:29 CDT 27:11:29 GMT
6/20/73

CDR Okay. I'll try to catch it when we come out in the sunlight (garble)

CC Okay. And we're about a minute from LOS. Goldstone will be coming up at 55. And I guess you and Joe got this dump to coordinate here shortly. Or the 92 vent, that is.

CDR Yeah, say, it's not clear to me where you want that. General message said look out the CM 5 window, but photos are out with that 243 in the wardroom window. Is that correct?

CC Let me check that one.

CDR Yeah, I need - it slipped my mind, I meant to ask you about that.

CC Okay, I guess those different observations. We don't want any photos here, we just want you to look.

CDR Oh, hold it. I've got a photo pad 1142, I think.

CC That pad, I think, is for the contamination photos.

CDR Oh, okay. Well, I'll just hold up on this one. I've got it, I see. Thank you. Yes it says observe (garble) and contamination photos, and I put them all together into one big thing. Okay.

END OF TAPE

SL-II MC-1266/1
Time: 06:38 CDT, 27:11:38 GMT
6/20/73

PAO This is Skylab Control at 11 hours 39 minutes Greenwich mean time. Guam has loss of signal. Skylab will next be acquired by Goldstone in 16 minutes. The vent observation being discussed between Conrad and the CAP COM has to do with the venting of the H092, the lower body negative pressure device. The desire there is for Conrad to observe that venting on the outside of the vehicle. We'll come back up just prior to Goldstone. At 11 hours 40 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MCI267/1
Time: 06:53 GMT, 27:11:53 GMT
6/20/73

PAO This is Skylab Control at 11 hours 53 minutes Greenwich mean time. Skylab is coming within range of the Goldstone station now. We'll stand by for that pass.

CC Skylab, Houston. Stateside for 14-1/2 minutes.

CDR Okay, Hank. On the vent I couldn't see anything.

CC Roger, copy. And where are you now? Anywhere close to the STS?

CDR Yeah, what do you want?

CC Okay. Panel 200 - we'd like to check the MDA PORT HEATERS. Primary and secondary CLOSED, and that's the top left center row.

CDR Okay, MDA PORT HEATERS: both of them are OPEN; they're both CLOSED, PRIMARY and SECONDARY.

CC Okay, after those are closed, we'd like to, on panel 203, verify the - or if they're not off, open the MDA HEATERS PORT CSM switch to OFF and the spare switch to OFF.

CDR They're both off, and they were off.

CC Roger, Copy. Thank you very much. And I got one other thing here. If you finished closing out the S183, is there (garble) one?

CDR Yes, I have.

CC Okay, I guess we're about to lock in on a decision to bring back that damaged film plate, the one that you took off of there on day 154. And when you get a chance, what we'd like to do is wrap it in a towel or (garble) cloth bag and use the grey tape to tape it to the flat surface on the outside of the 183 film carrousel, 1-2.

CDR Okay. What are you going to do with 1-1? Bring it back, too?

CC 1-1 is coming back also.

CDR Okay.

CC Skylab, Houston. In order for the CDR and SPT to get in your PT, you're clear to delay the med deactivation as necessary.

SC Thank you.

CC Skylab, Houston. For info, now that we got those port heater circuit breakers closed, we're going to run a command check on them. We'll just turn them on and back off again.

CDR Okay, Hank. The contamination photos are complete.

CC Roger, copy.

CC CDR, houston. Do you still have a message

SL-II MC1267/2
Time: 06:53 CIT, 27:11:53 GMT
6/20/73

we sent up on day 23 regarding the service module quad A procedure to vent it to the PSM?

CDR Surprisingly enough, now that you mentioned it, yes.

CC Okay, we see this quad A is continuing to warm up. My tank pressure oxidizes now to 204 psi, and at your convenience and with pad and coverage, we'd like to go up and run through that and leave Quad A. We got about 4-1/2 minutes left on this pass. You think you got time to get it done?

SC I'm looking at it.

SC The service module RCS Quad PROPELLANT A OPEN; talkbacks - two of them gray. That is true. And then I'm going to go ahead and open the TSM. I have done that.

END OF TAPE

DEACTIVATING PROCEEDURES
MED DEACTIVATIONS DELAYS

SC It looks like it already did the job.
CC Roger. It looks like it to us, too.
CC Okay. It looks good to us. So you can go ahead now and complete the procedure.
SC ATSM quad A (Garble) is closed, and the talkback is barber poled. And I'm going back to (garble) (loud whistle).
CC Okay. Good show. Thank you a lot, Pete.
CC Skylab, Houston. One minute to LOS, Vanguard at 21.
PAO This is Skylab Control at 12 hours 10 minutes Greenwich mean time. And Merritt Island Station has loss of signal. The Vanguard Tracking Ship will next acquire Skylab in about 10 minutes. Quad A is that service module reaction control system quad on which the temperatures have been running above what had been expected. Along toward the latter part of this pass, Pete Conrad was asked to go up into the command module, open a couple of valves, and relieve the pressure that was building up in that quad. Also during this pass we advised the crew that they can delay the medical deactivation until after Conrad and Kerwin have gotten in their exercise today on the bicycle ergometer. Included in the medical deactivation is the stowage of the restraints on the ergometer, and the crew would not be able to ride the bicycle after deactivation takes place. Paul Weitz has already gotten his exercise this morning, when he did the M171 medical experiment - the last run of that experiment, which is performed on the bicycle ergometer. We'll come back up just prior to Vanguard acquisition. At 12 hours 12 minutes Greenwich mean time, this is Skylab Control.

END OF TAPE

SL-II MC-1269/1
Time: 07:18 CDT 27:12:18GMT
6/20/73

PAO This is Skylab Control at 12 hours 19 minutes Greenwich mean time. We're standing by for acquisition at the Vanguard. Skylab will be through there - acquisition duration about 8-1/2 minutes.

CC Skylab Houston, through Vanguard 8 minutes.

PLT Well, it must be coming right over the top, huh?

CC Well, not really, just sort of a grazing blow there.

PLT Oh.

CC Skylab Houston. That star should be available now for star tracker.

CC Skylab Houston, for the SPT.

SPT Go ahead.

CC Hey, Joe, sorry to hit you with this right at the end here but, on page 318 of your checklist there at the end of the M170 run - 1 run - I guess there is some concern here about getting the MS chamber there all evacuated out. So we'd like for you to perform the MS sample (garble) valve close, and use a 5/32-inch Allen bit, torque handle 40-inch pound. And we want to close it up now, and then the iron pump will continue to run for another hour or so, and really pump her down. This is to preclude some sort of a lockout on SL III.

CC And Skylab, 1 minute to LOS. We'll be coming up on Goldstone at 32 with a data recorder dump.

PAO This is Skylab Control at 12 hours 29 minutes Greenwich mean time. Skylab is out of range of Vanguard tracking ship. The next station to acquire will be Goldstone in 1 hour 2-1/2 minutes. We've had some requests to replay the audio portion of the crew's inflight news conference this morning. That conference started about 5:18 a.m. central daylight time. The tape of that conference is ready now, and we'll replay that on this line. (Refer to tapes 1259, 1260 and 1261.)

END OF TAPE

PROCEEDURES RECOMMENDED
FOR SL III

SL-1, MC-1270/1
Time: 08:30, CDT, 13:13:30 GMT
6/20/73

PAO This is Skylab Control at 13 hours 30 minutes Greenwich mean time. Skylab coming up within range of the Goldstone Station now. We'll stand by.

CC Skylab, Houston; stateside for 7-1/2 minutes.

PAO This is Skylab Control. The crew's still in their lunch period now. Following lunch, transfers will begin of equipment to be brought back, transferring them from the orbital workshop to the command module.

CC We've been having a little trouble tracking down the answers to the EREP questions. And Al has got an interest for his crew, and answers to a couple of them. Would it be convenient to get a couple of answers here, real-time?

SC Yeah. Go ahead.

CC Okay. I guess the ones he's concerned with are, should the SL-III and IV crews continue the T38 aircraft flights over the S191 site?

SC Affirmative.

CC Okay. And would you recommend that these - this type of trend be practiced on all the sites or just only on the more difficult ones?

PLT I recommend that if they have the time to pratice it on all of them.

CC Okay. And would you recommend using the T38 with a VTS simulator in it or just a T38 looking through the canopy?

SC Both.

CC Okay. Is there anything else you'd like to add that might help in their training. They're - got about 2 weeks before they go into quarantine, and they're trying to get all that set up.

SC Well, I appreciate that and I elaborated quite a bit on the damn tape I don't know what's happening to those things.

PLT Yeah. Tell Jack or Al that you don't have time - Once you start looking for the site of track you don't have time to look at your photographs and all that key stuff, and back and forth. You've got to know the sites. And for that reason, the more looks they can get at it, and I can't emphasize too much how well - how much going out and looking at them from the airplane helps in flight acquisition and recognition. Now there's a - Looking at them through the canopy is, in order of magnitude, better than not looking at them at all. And looking at them through the VTS is twice as good as that. So just getting out of any airplane and looking at them, there's ah - sure helps. It'll pay off in the end.

CC Roger. Copy.

PLT But the big thing to do, on that, Hank, is to be familiar with the sites. And all you're going to use the book for is kind of refreshen your memory and jogging you on some checkp ints that you have things to look for. But you don't have time. You stick your face in that telescope and that's where you stay from then on.

CC Okay. Thank you, Paul.

END OF TAPE

SL-II MC1271/1
Time: 08:38 CDT, 27:13:38 GMT
6/20/73

CC Skylab, Houston. We're about 1 minute to LOS. Vanguard will be coming up at 58, and sometime within the next 10 minutes we'd like to get the star tracker up. If you don't, we'd like to get the MPC to inhibit so we can command the wedges over Vanguard.

CDR Okay, the star tracker in work.

PAO This is Skylab Control at 13 hours 45 minutes Greenwich mean time. Texas station has loss of signal. The Vanguard will acquire in 16-1/2 minutes. During this pass, CAP COM Hank Hartsfield passed up some EREP questions from the Skylab-III crew, commanded by Al Bean, asking the crew's evaluation of EREP training in aircraft, T38 aircraft, over the sites. Paul Weitz responded that flights over the sites were certainly a big help, and he recommends that the crew do this kind of a training prior to their mission. In the Pacific at this time the U.S.S. Ticonderoga is conducting a recovery simulation. We'll come back up just prior to acquisition at Vanguard. At 13 hours 47 minutes, this is Skylab Control.

END OF TAPE

SL-II MC-1272/1
Time: 08:30 CDT 27:13:56 GMT
6/20/73

PAO This is Skylab Control at 13 hours 56 minutes Greenwich mean time. Skylab is about to be aquired by the Vanguard. We'll stand by for this pass.

CC Skylab Houston, through Vanguard for 8 minutes.

CC Skylab Houston. For info we're going to clear the ACS ALERT light.

CC Skylab, Houston. About 1 minute from LOS, next contact is Hawaii, a little over an hour from now at 07.

PLT Roger.

PAO This is Skylab Control at 14 hours 7 minutes Greenwich mean time. Skylab now out of range of the Vanguard tracking ship. Next station to aquire will be Hawaii in 58-1/2 minutes. At 14 hours 8 minutes this is Skylab Control.

END OF TAPE

SL-II MC-1273/1
T1+28 / 09:11 GMT, 27:14:11 GMT
6/20/73

PAO This is Skylab Control at 14 hours 12 minutes Greenwich mean time. A news briefing on recovery operations and medical aspects of recovery will be held in the Johnson Space Center news briefing room at 10:30 a.m. central daylight time today. To repeat, a news briefing on recovery and the medical aspects of recovery will be held in the News Center briefing room at JSC at 10:30 a.m. central daylight time. This is Sklay Control; out.

END OF TAPE

SL-IV MCC/Mil
Time: 10:02 GMT, 27:15:02 GMT
6/20/73

PAO This is Skylab Control, at 15 hours 2 minutes. Skylab will soon be within range of the Hawaii station for about a 6 minute pass there. The Commander, Pete Conrad busy at this time transferring equipment into the command module from the orbital workshop, equipment and experiment data that will be brought back. Scienct Pilot Joe Kewin equally busy with deactivation of the sleep monitoring experiment and other medical experiments. And within the next few minutes Pilot Paul Weitz should be deploying the particle collection experiment through the antisolar scientific airlock. That experiment will be operated unattended throughout the rest of the day. The ultraviolet panorama experiment which has been in that airlock was retracted and stowed several hours ago. Crew was allowed to sleep about 15 minutes late this morning as Skylab came within range of Goldstone. At wakeup time the surgeon reported they were sleeping soundly. Flight Director decided not to send the wakeup call until just before Bermuda loss of signal. About 5:18 a.m. Central daylight time this morning the crew did participate in a news conference which was televised. They answered a series of questions read up to them by the CAP COM. Questions had been prepared by newsmen covering the mission. Paul Weitz and Joe Kerwin also completed the last runs today on the lower body negative pressure and metabolic activity medical experiments. Following the deactivation of the medical experiments and the deployment of the particle collections experiment, the other crewmen will assist Conrad in the transfer. That will be followed la - - Here's AOS now.

SC Roger.

CC Skylab, Houston. I think the star tracker latched onto a - some kind of a particle outside. Would you bring it upat your convenience? Reacquire?

SC Yes sir.

CC Skylab, Houston. We're about 45 seconds from LOS. Vanguard at 34 and we'd like to get a current assessment of the wardroom window. We're trying to make our plans for deactivation.

PAO This is Skylab Control, at 15 hours 13 minutes Greenwich mean time. Hawaii has had loss of signal. The next station will be Vanguard in 21 minutes. Following the equipment transfer which is scheduled to continue to up until about 1:00 p.m. Central daylight time today, 18 hours GMT, the crew will inventory the items they have transferred into the command module, double check they haven't forgotten anything. And that activity will continue up into their presleep activity. We'll come back up just prior to - - Well, scrub that. The news conference will have started by the time we have Vanguard acquisition. We'll tape through Vanguard and play that tape back after the briefing on recovery operations on the medical aspects of recovery. At 15 hours 14 minutes, this is Skylab Control.

END OF TAPE

PAO Skylab Control at 16 hours 37 minutes 23 seconds Greenwich mean time. We have a - the Vanguard pass during the last revolution has now been recorded, and we will play that back to you at that time. This is air to ground from Vanguard during the last pass.

CC Skylab Houston, through Vanguard 10 minutes.

CDR Okay, the SPT is headed for the star tracker to salvage the situation. And PLT will talk to you about the OWS windows.

CC Okay, ready to copy.

PLT Hey, wait until you talk to Joe about the star tracker, Hank.

MCC Assistance, corollary.

CC SPT Houston. Are you in trouble with the star tracker?

SPT Too soon to tell. (garble)

CC Skylab, we'll be dumping the recorder at this site.

SPT Okay, I've got a star.

CC Okay, good show. Paul, what can you tell us about the window? How does the fogging look now?

PLT Wait a minute, let me get a picture of you, from it - for you. It's a good right angle, let me get it, and I'll be with you in a minute.

CC Okay.

PLT Okay, the foggy is all gone. Now it's - the foggy only occurred because I turned the heaters off. Now what we have right now is a spot of ice. It's egg shaped just about as big as (garble) cross section. It is a relatively clear ice that has a lot of - it's a crazed pattern like ice that has been cracked. And in one corner of it the outer edge is a raised spot which is the nucleus fo the whole thing. That's the part that was there when we first took the cover off. That's - I estimate 1/16 to 1/8 - that's hard to tell - 1/16 to 1/8 of an inch thick, and almost, but not quite, 1/2 inch in diameter.

CC Roger, copy.

PLT That's it. There is something else that we've also got on here. I don't know if we mentioned it to you before or not. It should show up in these pictures. Where the vent hole comes in between the panes there, at certain times, especially after a night pass, it is more noticeable than after you have been in the light a while, there is just a little faint fog pattern like as though air had been coming in and out through that vent port although we've had it closed except for that couple of days that we left it open.

CC Roger.
PLT It's like an exhaust shake, like an exhaust plume that - it starts right at the edge of the window and gradually gets wider until it just kind of peters out here in the middle of the window.
CC Paul, where is this high spot located relative to the window? Is it right in the middle?
PLT Yes sir. Without measuring it I can't tell you that. It's out in the middle. For all practical purposes, it's right in the middle. Standing on the wardroom floor, looking at the ice spot then the rest of this ice pattern and the ice spot is in the lower right-hand part of this egg shape (garble) that I described to you.
CC Roger, copy.
CC Skylab Houston, 1 minute to LOS, Hawaii at 42.
CC Houston through Hawaii for 10 minutes.
PLT Hello.
CC We have AOS at Hawaii.

END OF TAPE

SHUT DOW STARTRACKER
UNTIL TONIGHT

1274

SL-1r MCC176/2
Time: 11:42 CDT, 27:16:42 GMT
6/20/73

CC Skylab, Houston. We see that the star tracker's broke lock again. The reason we're trying to keep this thing locked up is we're trying to get some drift rate on the gyro Y2, and we got G gyro. And we're so far between stations we're not getting very good information. So rather than sit there and keep messing with it then, we'd like for you to close the shutter and power it down in the SEVA. And just before you go to bed, when we get a little more frequent station contacts, we'll try to bring it up again.

SC Okay, we'll power it down.

CC PLT, Houston. How did the 149 setup go?

PLT It went okay.

CC Roger.

CC Skylab, Houston. One minute until LOS. Vanugard coming up at 13 with a data recorder dump.

SC Roger.

PAO Skylab Control at 16 hours 53 minutes and 34 seconds Greenwich mean time. We have lost signal at the Hawaiian tracking station after the playback of the Vanguard and we're live for Hawaii. And completing that we have 19 minutes and 15 seconds before our next acquisition of signal again at Vanguard, and we will be back up at that time. This is Skylab Control at 53 minutes 56 seconds after the hour.

END OF TAPE

SL-II MC-1277/1
Time: 12:11 CDT; 27:17:11 GMT
6/20/73

PAO Skylab Control at 17 hours, 11 minutes and 4 seconds Greenwich mean time. We are now about a minute and 54 seconds from acquisition of signal at the Vanguard Tracking Ship. During this last pass there was some discussion of the star tracker, which has been giving us a little bit of a problem during the past day or so. And we may hear something about that after the Vanguard pass. This is Skylab Control remaining live for acquisition of signal at Vanguard.

CC Skylab, Houston; through Vanguard 8-1/2 minutes.

SC We're really here, Houston.

CC Say again.

CC Skylab, Houston. For info, we're going to command S149 power ON to get some temp measurements.

SC Okay.

CC Skylab, Houston. Been having a little problem here with the COMM. I'm just making a COMM check now and disregard.

CC Skylab, Houston. About 40 seconds to LOS Hawaii at 23.

CC That's about an hour from now.

SC See you then.

PAO Skylab Control at 17 hours 22 minutes and 9 seconds Greenwich mean time. We have lost acquisition of signal at Vanguard. We will not pick up another signal for over an hour from now. And that will be at the Hawaiian Tracking Station, a very low elevation pass, 2.4 degrees above the horizon, very nearly on the horizon during its entire pass, as it travels to the southwest of Hawaii. Because that is a low elevation pass, the total time of communications at Hawaii will be about 2 mirutes and 13 seconds. Normally we do not acquire signals that are below 3 degrees, which is so close to the horizon that it is difficult, sometimes, to get communications, but there is a rule that instructs us to get at least 2 communications passes per revolution. This will be our second one in the 535th revolution about the Earth. The star tracker on the spacecraft, which is used in attitude control, has been powered down during a previous revolution. The star tracker's field of view normally is the southern hemisphere when the space station is in solar inertial attitude or when it's pointed toward the sun to receive power. There are three stars in the southern hemisphere used for observing. Canopus, Achernar, and Alfa Crux are the stars normally selected. And the star tracker is used to provide a night time reference for determining the attitude of the spacecraft when we are in solar inertial attitude and in the daylight, which is a good part of each revolution. We receive our data on attitude from the sun (garble) of the ATM, the Apollo telescope mount.

But in the night time we use the start tracker for the same purpose. The astronauts aim in the general vicinity of the star using the control and display panel, and then they instruct the startracker to, by a computer, to begin an automatic scan of the sky, until it locates the desired target. When the star tracker detects light reflected from the earth or radiated by the Sun, a shutter closes to protect the star tracker's lens and it waits until the spacecraft returns to darkness to reopen that shutter. The star tracker was powered down during an earlier revolution. And has not, in fact, been used since late last night. The reason for that is, that the star tracker has been picking up particles in the vicinity of the spacecraft and following those rather than the star that it is designated to follow. For this reason, it is not dependable as an attitude control device. Makes very little difference at this time. The star tracker is not necessary for attitude control. It's used as an attitude reference system for very, very fine tuning of attitude. It is important during Earth resources experiment passes and will be used during the next manned Skylab mission. It's expected now, that the star tracker will not be used again until that manned mission, because it's not essential that it be used. It's only used for a very fine attitude control when we are, for example, in an Earth resources orientation, which requires a movement of the spacecraft and a very precise pointing towards targets on the Earth. So that star tracker has been powered down and won't be used again during the mission. At least that's the present expectation here, in Mission Control. During this last pass we turned on the S149, or particle collection experiment equipment, just to gather some temperature readings on the instrument - get some indication of whether or not it was working properly. That was turned off from the ground just before we lost signal at Vanguard. Purpose of the particle collection experiment is to determine the distribution of very tiny particles or micrometeorites traveling in a vicinity of the spacecraft. The reason for doing this is to determine the surface erosion of the spacecraft - to determine how much actual damage is done by these small particles, how much of the material that the spacecraft is made of is eroded away by the striking of micrometeoroids on its surface. This will be used in designing future spacecraft and determine what thickness of metal should be used and what kind of surfaces would be desirable. Also, will increase our knowledge of space biology, because we will bring back the contaminates on the cassette in this particle collection instrument. And we should get some idea of what the makeup of those micrometeorite

SL-II MC-1277/5
Time: 12:11 CDT, 27:17:11 GMT
8/20/73

particles are and whether or not there are any amino acid precursors. That is very, very primitive forms from which amino acids, one of the basic substances of life, are formed. And that will be another secondary purpose of gathering data on particles in the immediate vicinity of the spacecraft. It's being done for a principle investigator at Dudley Observatory in Albany, New York. This is Skylab Control. We are now nearly 56 minutes from acquisition of signal at Hawaii, and we will come up again at that time. 27 minutes and 12 seconds after the hour, Skylab Control.

END OF TAPE

SL-II MC1278/1
Time: 13:20 CDT, 27:18:20 GMT
6/20/73

PAO Skylab Control, at 18 hours 20 minutes and 4 seconds. We have just had acquisition of signal at the Hawaiian tracking station and will remain live for air-to-ground from Hawaii.

CC Skylab, Houston, through Hawaii 2 minutes.

CC Skylab, Houston. We're about 7 minute from LOS. Vanguard at 51 with a data recorder dump.

PAO Skylab Control, at 18 hours 25 minutes and 59 seconds Greenwich mean time. We have now loss signal at the Hawaiian tracking station and will acquire again at Vanguard in little less then 25 minutes. Beginning about 9 a.m. this morning, Skylab Commander Charles (Pete) Conrad began moving dozens of items from the space station to the command module including nearly 10,000 feet of 16 millimeter film that's used to record experimental data. Film cassettes from the earth observation cameras that are used to photograph eleven - have been used to photograph 11 separate ground tracks across the United States, and across several other countries of the western hemisphere. In addition, Commander Conrad, with some assistance in the last hour and a half from Paul Weitz, moved samples, canisters, and magnetic tape reels from several space experiments. Also included in the list of items to be stored are small pieces of equipment that have not been performing properly, including a water dispenser valve. Today's stowage activity is preparatory for undocking very early Friday morning and for a splashdown to occur just before 8:50 a.m. Central daylight time, approximately 830 miles - statute miles southwest of San Diego, California. During the coming pass over Vanguard we expect the S149 particle collection experiment to be test operated. The S149 is to gather data on the size and shape of tiny particles or micrometeorites in the vicinity of the spacecraft. During the previous Vanguard pass, the revolution just completing, we did take the instrument and extend it on the boom outside of the antisolar scientific airlock, outside a small airlock in the side of the orbital workshop that's opposite the Sun. And that boom was tested earlier today for a mal - possible malfunction. It had malfunctioned the last time it was withdrawn. It is also used for the T027 and S073 experiment. It's an 18-foot-long boom that's used to extend this apparatus outside the workshop. The apparatus will be now tested. They did put it out for - to get temperature data over Vanguard, found that it was reading minus 31 degrees, which is well within the motor's operating range. And during the next pass over Vanguard they expect they will command that. It takes approximately 7 minutes to run one test on it. The device is opened up - has a series of four cassette panels, and

those open up at the command of the motor. Takes about 3 minutes for them to pop open and about 3 minutes to close them up again. The only purpose of this is to make sure that the expermental hardware's in operating condition. The S149 will not be used until after the men have left the spacecraft. It's to acquire particle data and will begin acquiring that data approximately 12 hours after the spacecraft has left. They don't want to use it at this time because it would be contaminated by fuel from the engines and other residues that are left by the crew and command module when it departs. After - 12 hours after the undocking they expect to open up that instrument, which will still be out 18 feet from the spacecraft on a long boom. It'll be opened by a telemetry command from the ground and will remain open until approximately 12 hours before the rendezvous of the next Skylab mission - the second manned mission or Skylab III as it is called. So we expect that to occur over Vanguard provided they have sufficient time to do the commanding and get it back into a closed position at Vanguard, just to test the engines - test the motors that operate the experimental hardware. This is Skylab Control, at 29 minutes and 42 seconds after the hour. Our next acquisition at Vanguard in a little over 21 minutes.

END OF TAPE

SL-II MC179/1
Time: 13:39 CDT, 27:18:39 GMT
6/20/73

PAO Skylab Control at 18 hours 39 minutes and 44 seconds Greenwich mean time. We are still 11 minutes and 15 seconds from acquisition of signal at the Vanguard tracking station and we'd like to make an announcement on our change of shift. We expect a change of shift briefing to begin at 2:15 p.m. Central daylight time today; that's 2:15 p.m. Central daylight time. That's earlier than our change of shift briefings have been running. The reason for that being that today there is no flight management team meeting, that's something we didn't know earlier. So, approximately 2:15 we expect offgoing flight director, Neil Hutchingson to be available for a briefing. The second flight director also on shift at this time, Phil Shaffer, may or may not be at that meeting. It depends on whether or not he gets out of the meeting he's in now. But we do expect flight director Neil Hutchinson to be available for a change of shift briefing at 2:15 p.m. Central daylight time today in the Building 1 small briefing room. We're still 10 minutes from acquisition of signal at Vanguard and we'll come up shortly before that. This is Skylab Control, at 40 minutes and 44 seconds after the hour.

END OF TAPE

SL-II MC-1280/
Time: 13:49 CDT 27:18:49 GMT
6/20/73

PAO Skylab Control, 18 hours 49 minutes and 51 seconds Greenwich mean time. We are 1 minute from acquisition of signal at Vanguard and will remain live for that acquisition. This is Skylab Control remaining live for air to ground.

CC Skylab, Houston. AOS Vanguard for 10 minutes.

SPT Roger.

CC And we are doing a data recorder dump at Vanguard this time.

CC Skylab, Houston, 1 minute until LOS, Ascension at 19:04, 04.

PLT 04.

PAO Skylab Control at 19 hours 1 minute and 39 seconds Greenwich mean time. We've lost signal at the Vanguard tracking ship, and expect to acquire a signal again at Ascension in about 2 minutes and 53 seconds. At that time we should hear a call from the new on-duty flight controller. Flight Director Neil Hutchinson has indicated that he is approximately ready to depart for that briefing, which we expect to begin in about 10 to 12 minutes, at 15 minutes after 2:00 p.m. The new on-duty spacecraft communicator will be Robert L. Crippen, astronaut. He is coming on with the maroon team of flight controllers headed by Flight Director Milton Windler. During the briefing to begin at 2:15 p.m. central daylight time, we will have off-going Flight Director Neil Hutchinson, who has been on during the deactivation part of today's stowage list. That's stowing of objects from the orbital workshop and multiple docking adaptor into the command module. And he'll be qualified to talk about tomorrow's activities. The Flight Director Neil Hutchinson will be the only person attending that briefing. The other off-going Flight Director, Phil Schaffer, will not be available today for the briefing. This is Skylab Control, we'll remain live for air to ground from Ascension in about a minute and a half.

END OF TAPE

CC Skylab, Houston; Ascension for 10 minutes.

CC Skylab, Houston; LOS in 1 minute. See you again at Guam at 19:51, 51.

SC Roger.

PAO Skylab Control at 19 hours 15 minutes and 21 seconds Greenwich mean time. We have lost signal at Ascension and will not reacquire the spacecraft until 35 minutes and 11 seconds from now. Flight Director Neil Hutchinson has left Mission Control and is going down for a taxi that is waiting for his outside the building. He's expected to appear at building 1 in approximately 3 to 5 minutes. This is Skylab Control, there will be a briefing in 3 to 5 minutes with Flight Director, Neil Hutchinson, in the building 1 auditorium. Skylab Control at 15 minutes and 50 seconds after the hour.

END OF TAPE

SL-II MC-1282/1
Time: 14:49 CDT 27:19:49 GMT
6/20/73

PAO Skylab Control at 19 hours 49 minutes and 40 seconds Greenwich mean time. We have acquisition of signal at the Guam tracking station, and we'll remain live for air to ground.

CC Skylab, Houston. AOS Guam 7 minutes.

CDR Hi there.

CC Hello. How are you, CDR?

CDR Good after having been carried in the command module all day.

CC Where you guys have been? Y'all were so quiet, I thought you were hiding from us.

CDR No, we were just trying to stay on the time line.

CC I thought you were preparing the vehicle for Captain Bean and his crew.

CDR Well, we are. We're also packing our own bags. Say Crip, there are a few things on B channel today that the stowage people ought to look at.

CC Okay, and they appreciate all the information you've been giving them regarding stowage also.

CDR Okay. One thing that I want to have verified is: I have put the extra S183 into A4, and I wanted to know if that is all right., rather than in a BGA bag and tied down on top of the (garble)

CC Okay, we'll get clearance on that.

CDR Hay, you guys are being pretty quiet down there too. You're cooking up all the changes for tomorrow and the next day.

CC Well, Hank is still around here working on that sort of thing right now. Actually, I'm just sitting here loafing. Regarding your question on 183, if you managed to get that thing in A4, that's fine and dandy.

CDR I got it done; it only took a little crow bar, but I got it in.

CC Okay.

CDR (garble)

CDR The other thing, Crip, is I have two valves to dump command module water into the OWS system. And I also have this valve that is designed to put humidity into the workshop atmosphere. No where do I find anything to do that. Unless I hear otherwise, I'm going to trash it, in the trash basket

CC Stand by on that, Pete.

CDR I think it's residing in A9 all this time.

CC Roger. It's the ones you keep in A9?

CSR — No, that's where they wound up. I forget. I think they came from A3 originally, but I don't really remember now.

CC — Okay.

CC — In the service module water - -

CC — Skylab, Houston. We're about 1 minute from LOS. We'll see you again over Vanguard at 20:28, and we'll try to have an answer for you regarding those valves and that atomizer. Our initial inclination is we'll probably want to put them back in the workshop some place and save them for the next mission in case we require them, but we'll do a storage location for you.

CC — Roger.

PAO — Skylab Control at 19 hours 58 minutes and 24 seconds Greenwich mean time. We've lost signal at the Guam tracking station and will next acquire in 29 minutes and 27 seconds at Vanguard. We will return at that time. This is Skylab Control at 58 minutes and 39 seconds after the hour.

END OF TAPE

SL-2 MC1283/1
Time: 15:20 CDT 27:20:26 GMT
6/20/73

PAO Skylab Control, at 20 hours 27 minutes and 4 seconds Greenwich mean time. We are 30 seconds from acquisition of signal at the Vanguard Tracking Ship, and we expect to have a live air-to-ground and a call from spacecraft communicator, Bob Crippen. This is Skylab Control, staying live for air-to-ground.

CC Skylab, Houston. AOS Vanguard for 11 minutes.

CDR Hey, Crip; CDR.

CC Go, CDR.

CDR I been going through that locker in the bottom of my room that has the (garble) six crew members (garble) and also the supply - resupply module that has tooth brushes and the hand cream and the tooth paste and so forth.

CC Roger.

CDR And the - All the hand cream let go in there. It got too hot. We told you that before, but we really haven't had a chance to clean it up until now and - so I just went ahead and closed it over and all the toothpaste had let go too. And so I have thrown away all the toothpaste resupply, and I've thrown away all the increased resupply that was in the resupply kit. And I'm just about to go into the individual guy's kits, because every hand cream in their individual kits let go, and I've got to check the toothpaste also. And more than likely it may or may not have let go in the individual kits, and if so, I'll let you know. But those are two items that - they're completely wiped out up here. I don't think the other guys need to (garble).

CC Okay, appreciate that. And for your information regarding those items that you were talking about in A9, what we think you're talking about is this - the atomizer device. That we'd like you to stow in 440, D440 for us. And there were two QD devices: one was the waste water transfer QD and the condensate QD adaptor. These should be stowed in M151 if we could.

CDR Okay, M151 for those and D440 for the atomizers - humidifiers. Roger.

CC Roger. And Pete, while I got you here, we've been having a little problem with those spots on the TV, and we'd like to try to get them cleaned up if we could. And I guess the question really is: Do you think you got time this evening to get the optics brush out of 5_4 and dust off the lens of both the external portion, and if you could remove it and get the internal portion too, we'd appreciate it.

CDR Okay.

CC Thank you.

SL-II [illegible]
Time: 15:20 CDT, 27/20:26 GMT
6/20/73

CDR Say Crip, you still there?

CC Affirm.

CDR Say, the other thing I haven't checked there is that none of them broke open, but our shaving cream was awfully hard. And I have a suspicion that that was due to heat also. I get the feeling that shaving cream - there is no toothpaste in the individual kits; so I've thrown away all the toothpaste. They are going to have to bring more of that. I've got the feeling that shaving cream, toothpaste, and hand cream have all gone bad too.

CC Okay, it's on note.

CDR Yeah, I won't throw away the shaving cream because it's not broken open, but I get the suspicion of something sneaky.

CC Copy.

SC Hey, Hank raised the vent up in the head. It was the only place I could open it up with just a (garble) sand collector to collect all the (garble) particles.

CC Okay. Some of the cream got out in the individual kits. It's felt that - you want to just throw them all away and resupply the whole kit, do you?

SC Well, we can do that because inside everybody's kit - yeah, it's broke open inside everybody's kit. I was just pulling the (garble) in the thing. If you think he can reach the (garble) kits, I just as soon get rid of them, because they're all dirty inside and so is the resupply module. It's filthy.

CC Okay. Why don't we take that under advisement down here and probably make some recommendation before you leave.

SC Okay, well, until you do, I'm going to stop throwing stuff away. I got other things I can do.

CC Okay.

SC I've already thrown away everything in the resupply kit, and I just finished Al Bean's and Joe Pogue's kits. And I'll stop right there.

CC Okay.

END OF TAPE

CC — Hey Crip, you still there
CC — Say again, please.
CDR — I said are you still there? Question. I have the TV lens, and it looks clean as a whistle inside, and outside I think, and how about if I change it out with the last that I stowed to leave on board on the (garble) camera.
CC — Let us check that out please.
CDR — Well, let me tell you this. I can see where the dirt is, and I'm not going to be able to get at it. It's on the next lens in from the front lens that's causing the spot.
CC — Roger. Understand it's the dirt on one of the lenses that you haven't got access to.
CDR — That's right. And let me make a suggestion that I bring both lenses home - use the good one and bring this one home, you clean them up and send them back.
CC — Rog. I think they intended to bring bring both lenses back down anyhow.
CDR — That's not my instructions, but if you say so and I haven't gotten into it yet. I've already stowed the other lens.
CC — Okay, we'll look into that Pete. I guess right now we understand that the intent is to bring both TV cameras home. And those day 27 transfers should have said that. We'll check back into it for you.
CDR — No, you've got it wrong. I'm bringing both cameras back, but it didn't say a thing about the other lens.
CC — Ah so. Okay.
CDR — Ah so.
CC — Okay, we're about 30 seconds from LOS. We'll have you again at Ascension at 20:42. And we'll have a clarification of what to do with the lens at that point.
CDR — All right
PAO — Skylab Control at 20 hours 39 minutes and 45 seconds Greenwich mean time. We have lost signal at the Vanguard tracking ship and expect to aquire Ascension in a little over 2 minutes. We have some additional temperature data now on a change made yesterday in the position of the parasol. Although some temperatures on outer walls of the space station are still 5 to 10 degrees above yesterdays level, one more night of study will be necessary to determine the effect of a slight rotation of the parasol to cover a hot spot in the orbital workshop. Temperatures in the orbital workshop living area of the spacecraft continue in the high 70s. Following yesterday's space walk to replace film and camera assemblies on Skylab's solar

telescope mount, astronaut Pete Conrad suggested that the parasol be rotated to shade a hot spot on the workshop where a water tank is located inside the workshop. The parasol is used to cool off the workshop by protecting it from direct sunshine, which struck the surface of the orbital workshop when the aluminum meteoroid shield was ripped off shortly after the launch of the space station. Conrad reported yesterday morning that one of the two rods used to spread the parasol's rear section had not fully extended and therefore the parasol was missing a small area outside the water tank. After receiving an okay from mission control, Conrad rotated the parasol trying to estimate 15 degrees, the amount he had suggested during the EVA. About an hour later, the crew discovered that the outer walls of the sleep compartment were becoming hot. Mean while ground flight controllers had observed some sharp temperature increases on the external walls outside the habitation area. Before orders could be given from the ground, the crew reported that they had moved the parasol that part way. Commander Conrad said he had over shot by about 10 degrees, and he'd try to move it back to the proper 15 degree rotation. While very little effect was noticed in the room temperature over night, the sensors attached to structural points along outer walls of the space station have gone up on the side of the orbital workshop opposite that which the crew sought to cover. Unfortunately there are no structural sensors near the water tank hot spot, and internal temperatures in that area require long periods of time to reflect changes. In addition, the EVA activity yesterday raised temperatures about 1 degree in the workshop because of shutdown of coolant loops inside during the EVA activity. That happened during previous EVAs as well and is a common thing. We are now within range of signal at Ascension and we'll remain live for air-to-ground from there.

END OF TAPE

SL-II- MC-1285/1
Time: 15:42 CDT, 27:20:42 GMT
6/20/73

CC Skylab, Houston; AOS Ascension, 6 minutes.
SC Rog.
CC Okay. And I guess this is the word on the lens. We would appreciate if you'd taken that one that you stowed and try it out, observe the TV monitor with each lens and select the best one, and use that one for the fly-around. You can stow the extra lens in S-6 - Bravo-6.
CDR Okay. You want to bring both lenses home and ah - The other one I have I examined it carefully in the Sunlight. It is obvious that - I don't know how this lens got by inspection, because all those big blobs, which I can see quite plainly, are on an inner lens.
CC Okay. Fine.
SC (garble) get the other lens, I don't know.
CDR You still there, Crip?
CC Affirmative. We're still over Ascension. Actually, we'll probably get a pretty long pass here. We'll probably have a small dropout between Ascension and Canary.
CDR Okay. The other lenses, (Garble) just visibly, to the naked eye, are a lot better. (Garble).
CC Okay. Fine. Then that'll be the one you'll use. Regarding those personal kits, we - Just forget about cleaning them out and just leave them like they are. We'll have them candidates for resupply, and if they don't get a resupply, well the guys can clean out their own kits.
CDR Okay.
CC Skylab, Houston. We'll probably have to drop you out for about a minute, between Ascension and Canary.
CC Skylab, Houston. I've picked you up again once more, over Canary, for about 8-1/2 minutes and we will be doing a data recorder dump over Canary.
PLT You still there, Houston?
CC That's affirmative, for about another 2 minutes.
SC Okay, Crip. We just decided - -

END OF TAPE

SC Still there, Houston?
CC That's affirmative, for about another 2 minutes.
SPT Okay, Crip. We just decided that, unless you guys have any big objection, we're going to get a leg up on this early bed, early get up stuff and we're going to go to bed an hour early, tonight, and get up an hour early tomorrow.
CC Sounds good from us.
SPT Okay. Don't call after 10, we'll call you.
CC Okay. I've got to check my time schedule to figure out when is what.
CC Okay. That's an hour from now.
CC Skylab, Houston. We're about 1 minute from LOS. We'll have you again over Guam, at 21:26 and that's where we're scheduled for the evening status report and we'll see what we can do about the other items for this evening.
SPT Okay.
CC Okay, Skylab. We're going to set up so you will have the medical conference over Guam.
SPT Good night.
PAO Skylab Control at 21 hours 1 minute and 8 seconds Greenwich mean time. We have lost signal now at our Madrid Tracking Station after a long pass from Ascension through Canary and Madrid, and do not expect to acquire signal again for 24 minutes and 35 seconds. At that time we will acquire at Guam and during this last pass, we've got an indication from our flight director, through the spacecraft communicator, Bob Crippen, that that will be reserved for a medical conference. Originally, that medical conference had been scheduled for approximately 1 hour later at the Vanguard Station at 22:06, originally. And they decided to move that up, because of a request of the crew, that they be allowed to go to sleep 1 hour early tonight. That would make them in bed and asleep by approximately, 5:00 o'clock central daylight time. Apparently, the ground team is trying now, to determine whether that will affect any of their other things. They do have to get a status report in before they allow them to go to sleep, or they do expect to. And that's still under consideration. Normally, the medical conferences have been very short, so it's quite possible we may get back to the crew for some live air-to-ground at Guam. And we would be up for that. So we do expect some change in their sleep schedule tonight, going to bed about 5:00 p.m.. And we expect them to get up 1 hour early tomorrow morning, which means they'd be up at 1:00 a.m. tomorrow.

That's an hour earlier than they have been getting up for the past week. During the past - approximately, the past week, since last Saturday, the crew has had a work schedule of 2:00 a.m. in the morning until 6:00 p.m. at night central daylight time. And this was done to prepare the crew and to adjust their sleep cycle for an early morning splashdown on Friday. That work schedule is to undergo adjustment again tomorrow. The crew is expected to go to sleep tomorrow about 2:30 p.m. central daylight time, after about an 11-hour work day. I'm sorry, after about - with this adjusted time, after about a 13-hour work-day. If they go to bed tomorrow at 2:30, as it is expected, they will be required to wake up 5 hours later, at 7:30 p.m. on Thursday evening, central daylight time and then they will begin preparations for their return trip aboard the command module. That splashdown on Friday is scheduled for, approximately, 8:50 in the morning central daylight time and its location is 830 miles southwest of San Diego in the Pacific Ocean. It's roughly west of Baja, California, roughly west of LaPaz. The most recent weather report we have on that landing area from the space flight meteorology group from the national weather service, division of the National Oceanic and Atmospheric Administration, they said this morning that weather conditions are expected to be satisfactory for the landing and recovery of the Skylab astronauts, Friday morning. The landing area located about 830 miles southwest of San Diego California, will have partly cloudy skies, northeasterly winds at 15 knots, wave heights of 5 feet, and a temperature near 67 degrees. To repeat that, partly cloudy skies predicted for Friday morning's landing area 830 miles southwest of San Diego, northeasterly winds at 15 knots, wave heights of 5 feet, and a temperature near 67 degrees. Temperatures so far on the workshop have changed very little, still remain in the high 70s. The shift of the parasol made yesterday, with a slight correction, that was intended to shift it 15 degrees, Captain Conrad found after the shifting that he had, in fact, shifted too far, and there was some over-heating in the sleep compartment walls, and as a result of that they shifted it back. He said later, that he had estimated, he wanted to shift it 15 degrees, had in fact, shifted it about 25 degrees, so he attempted to move it back 10 degrees to get it to the 15-degree shift that he wanted it. That was a 15-degree counterclockwise rotation of the parasol that was done from inside that scientific airlock on the Sun side of the workshop. So, it presently remains at that 15-degree counterclockwise rotated position.

SL-II MC-1286/3
Time: 15:58 CDT, 27:20:58 GMT
6/20/73

And the readings that we have so far indicate no improvement so far, but on the other hand they are not certain that there has been any degradation. They'd like to give one more night, so that sometime tomorrow morning, we should have sufficient information for a thermal management specialist here at Johnson Space Center's Mission Control, and also at Marshall Space Flight Center's Huntsville Operations Support Center, that's a supporting unit that is connected by computer and communications systems to Mission Control, here in Houston. And the Huntsville, Alabama Center is looking at the thermal problem, and looking at the data. So far there's been no determination of whether that rotation has had any benefit, or not. It's believed that there's been no adverse affects, but because of a number of complicating factors, including the high, long periods in the Sun, and due to the EVA, yesterday, which requires a reduction in coolant in the workshop, it's very difficult at this time to make any determination of whether that has been a successful rotation or unsuccessful one. So, no doubt we will get some data on that overnight and final decision will be made promptly tomorrow, as to whether or not the parasol should be returned to its original position, or some sort of modification of its position. This is Skylab Control, our next acquisition of signal, about 19-1/2 minutes from now, is for a private medical conference, the daily private medical conference to determine the present state of the crew's health, generally it's been a very, very brief one. Just sufficient to tell Dr. Buchanan, who's been getting the reports, that crew health has been excellent, there have been no problems thus far. And we expect a similar thing may take place today. In fact, Flight Director Milton Windler of the Maroon team indicated a short while ago that he requested the medical people - asked them whether they would require a medical conference at all today, in view of the fact there are very few passes left before the crew has asked to go to sleep. So the crew will be going to sleep, it looks like an hour early at 5:00 p.m. central daylight time. Next pass 18 minutes-1/2 from now at Guam, a private medical conference. We will come up live for air-to-ground in the event that that medical conference is a brief one as it has been in the past days. This is Skylab Control at 7 minutes and 28 seconds after the hour.

END OF TAPE

SL-II MCI287/1
Time: 16:24 CDT, 27/21:24 GMT
6/20/73

PAO Skylab Control at 21 hours 24 minutes and 3 seconds Greenwich mean time. We are now approaching acquisition of signal at the Guam tracking station. This Guam pass is reserved for a private medical conference conducted with the crew from a private room near the Mission Control Center, inside the Mission Control Center but seperate from the operations room. And we do expect that the medical conference will be fairly brief and that we should have communications following that medical conference today. The crew is expected to go to sleep at 5 p.m. central daylight time today. That's 1 hour earlier than was originally planned, and we do expect them to get up an hour early tomorrow morning, which means they'll be up at 1 a.m. central daylight time on Thursday. Tomorrow they're expected to go to sleep again at 2:30 p.m. central daylight time after a short workday, and will wake up 5 hours later to start preparations for that Friday morning splashdown. The retrofire officer here at Mission Control yesterday arrived at final calculations on those maneuvers necessary for Friday morning's return of the first Skylab crew. The command module is scheduled to undock at exactly 3:45 a.m. central daylight time with the space station over the North Pacific about 1200 miles north of Hawaii. Separation, which uses the small reaction control system jets for 23 seconds beginning at 4:40 a.m. central daylight time, follows. The separation burn will slow the command module 5 feet per second or about 3 miles per hour, moving it behind the space station after it has completed its flyaround. That flyaround is expected to be televised during the period between 3:45 and the 4:40 separation. After it has completed the flyaround, the CSM slows down, moves into a lower orbit, and then passes beneath the Skylab cluster, because of it's shorter travel distance in a lower orbit. The separation takes place over the Indian Ocean some 2,000 miles due south of the Malagasy Republic on the Island of Madagascar. Following separation at 5:05:30 a.m. central daylight time Friday, the main engine, or service propulsion system, will be fired for 10 seconds to slow the spacecraft an additional 264 feet per second, or about 180 miles per hour slower, putting it in an orbit 233.6 nautical miles, or about 269 statute miles at it's high point, and 90.7 nautical miles, or 104 statute miles at its low point. This elliptical orbit is necessary to bring the spacecraft close enough for the reentry maneuver. The orbit-shaping maneuver is conducted over the Philippine Sea about 600 miles east of the main Philippine Island of Mindanat. The final burn requiring a 7 second retrofire of the main

engine, slows the command module another 190 feet per second, or about 130 miles per hour. That will be made at 8:10:43 a.m. - 8:10:43 a.m. central daylight time over the northernmost area of Thailand near the Burma border. The spacecraft will take more than 23 minutes to reach 400,000 feet, and will reach that level at 8:33:47 a.m. central daylight time. And splashdown is set for 8:49:57 a.m. central daylight time, approximately 830 statute miles southwest of San Diego, California. The predicted impact point is 24 degrees 46 minutes north latitude and 127 degrees 4 minutes west longitude. That's 830 miles southwest of San Diego, California; predicted impact at 24 degrees 46 minutes north latitude and 127 degrees 4 minutes west longitude. That is a point - -

CC We got you for about 7-1/2 more minutes. We've got a long message for your deactivation changes sitting in the teleprinter for you, hopefully. They're coming up - -

CDR Thanks a lot. You waited until we were going to go to bed.

CC Roger. No reason for you to go to bed. There's nobody down here can answer any questions about them.

CDR Okay. The CDR ate everything tonight plus two cans of butter cookies. The SPT ate everything and the PLT ate everything plus one can of butter cookies extra and 1.5 DELTA H2O plus - well, wait until I find it - oh, okay, I've got his (garble) hiding behind the bungee that he had his card behind. He didn't eat his corn. And I have a photo log for you.

CC Roger.

CDR The CDR had three optional salts.

CC Okay.

CC We're standing by for your photo.

CDR I have my ice cream in one hand, my spoon in the other, two cans of butter cookies empty between my legs because I was on my way to the trash locker, and I can't read it. Just a minute.

CC Okay.

CDR Okay. Photo log for day 171. 16-millimeters in S183: Echo Alfa 03, 80; and M110 with the Charlie India 15, 00; Charlie India 12. M487: 3 Bravo in Charlie; Charlie India 13, 18, Charlie India 10. M151-S149 PR-3: Charlie India 17, 20, Charlie India 06. Shot it up, Charlie India 17, nothing, Charlie India 06. 35-millimeter: Charlie India 31 is all gone, Charlie India 33 is now loaded, 01 on the frame count, Charlie India 32 is in the other camera, 27; we took CX06 out of the Hasselblad with approximately 103 exposures on it, and we then loaded Charlie X-ray 23 for the flyaround and so forth and the frame count right now is 004. There was no EREP, of course, and the drawer A configuration was - -

CDR - - is now loaded, 01 on the frame count. Charlie India 32 is in the other camera, 27. We took CX06 out of the Hasselblad with approximately 103 exposures on it, and we have loaded Charlie X-ray 23 for the flyaround and so forth and the frame count right now is 004. There was no EREP, of course, and the drawer A configuration was A-1, is now 02, Charlie India 1, 900 percent, Charlie India 15; 03 is Charlie India 20, 100 percent, Charlie India 17, and those are the two we plan to shoot up on our own. Alfa 3 is 06, Charlie India 13, 18 Charlie India 10, and we'll shoot that up and A-4 is 05, nothing, takeups Charlie India 16 and I suspect tomorrow night it will be 02, 03, 06 with takeups of Charlie India 19, Charlie India 20, Charlie India 13, and Charlie India 16 with no supply. Okay?

CC Okay. I hope our people in the back room managed to get all that. Also, Pete, we have requested on your details, if we could, to get a rundown on the consumables inventory page 5-1 and 5-2 of the stowage list. Is that available, or did you put that on channel B?

CDR I got it. Just a second.

CDR Okay. Urine disposal bag - wait, let me get the PLT down here to - -

PLT It's on channel B.

CDR Oh, I'm sorry. He says he put it all on channel B. Okay?

CC Okay. That'll be fine, if you have it on channel B for us.

CDR I hope the guys on the ground can decipher it, because I can't understand it up here, but the PLT knows all.

CC Very good. (garbled).

CDR Actually, he's sitting here nodding, looking like a Buddah telling me.

CDR We'll go ahead and digest the checklist changes, so we won't bug you until tomorrow.

CC Okay. That'll be fine. The deactivation guys have secured, and they'll be available to you in the morning and can answer any questions you may have on it.

CDR Okay.

CDR We've already got day 29 anyhow, so it doesn't make any difference. We just didn't want to tell them.

CC I suspected that also. You guys just want to loaf tomorrow.

CDR Yes, the PLT thinks that if we can figure out our (garbled), we'll be ready to retro about 1 tomorrow afternoon.

CC You guys really are anxious.
CDR We're just trying to stay out of the changes.
CC You've been doing pretty fair so far. We're about to go over the hill. Got about 1 minute. If you do want to call us, we'll be over Vanguard at about 22:07, that's 07, and I'll probably be talking to you again after splashdown. Good luck, guys.
CDR Okay. Thank you, Crip. Where are we right now?
CC Oh, just about over Bornio right now.
CDR Oh, yes. There it is, Bornio. I couldn't recognize what it was. Yes. Thank you.
CC I couldn't either if Rusty hadn't told me.
PLT See you, Crip.
CC Take care.
PLT Thanks to your whole team.
CC Yes, thank you guys. You did an outstanding job.
CC And we've just completed sending the last of all those message That should do it for this evening.
CDR Okay. We turned off the teleprinter anyhow. We didn't want to do them.
PAO Skylab Control at 21 hours 36 minutes and 16 seconds Greenwich mean time. We've lost our signal from the Guam tracking station as the spacecraft was travelling over Bornio headed to the southeast. We've gone over the horizon at Guam. We do come very low on the horizon from the Honeysuckle tracking station in Australia, but it's a very low elevation pass, 2.3 degrees above the horizon, barely above the horizon, and because we have had two passes on this revolution, we do not expect to have any acquisition of signal, and in addition to that spacecraft communicator Bob Crippen indicated that that was a goodnight call and they would not be calling them again. The next good opportunity for communication would not be until Vanguard, and Vanguard is about 30 minutes away from now, and because of this 30 minutes away, it would be after the time the crew indicated that they would like to go to sleep. We do expect the crew to be going to sleep about 5 p.m. central daylight time. That's about 23 minutes from now, and we do not expect to hear another call to or from them. We will remain on station for possible calls at either Honeysuckle or Vanguard and we will get a private - a short report out of that private medical conference held at Guam at the beginning of that pass. We have the latest weather report; it's a confirmation of that one given earlier at 21:00 Greenwich mean time about 37 minutes ago. (garbled) Meteorology Group's National

Weather Service, division of the National Oceanic and Atmospheric Administration, said this afternoon that weather conditions are expected to be satisfactory for the landing and recovery of the Skylab astronauts early Friday morning. The landing area, located about 830 miles southwest of San Diego, California, will have partly cloudy skies, northeasterly winds at 15 knots, wave heights of 5 feet, and a temperature near 67 degrees. Predicted impact point of that splashdown, 24 degrees 46 minutes north latitude, 127 degrees 4 minutes west longitude. That is the point at which the main chutes open and as close a prediction as we can give at this time of the impact point for that splashdown of the first manned mission from Skylab. This is Skylab Control. We will remain live for any possible air-to-ground at Honeysuckle, but it is not expected that we'll have another acquisition until Vanguard at approximately 27 minutes. This is Skylab Control at 38 minutes remaining live for any air-to-ground possible at Honeysuckle.

END OF TAPE

SL-II MC-1289/F
Time: 16:39 CDT, 21:21:39 GMT
6/20/73

PAO Skylab Control. We have lost any possibility now of getting signal from our Honeysuckle tracking station. Our next acquisition signal 22 minutes and 50 seconds from now at Vanguard. We do not expect to hear from the crew again tonight. They indicated earlier that they would like to go to bed early and get an early start tomorrow for their deactivation of the orbital workshop, preparatory to their return Friday morning. We have a report from the surgeon, based on that private medical conference held at Guam during the last pass a few minutes ago. The surgeon report signed by Dr. Buchanan is as follows: "The SL-2 Commander, Captain Conrad, reports the crewmen are "all super". We can find no hint of inflight health problems as the crew prepares for an early beginning of their sleep period. They have expressed a wish to turn in early and get a headstart on the deactivation schedule tomorrow." Signed Dr. Buchanan for Dr. Hawkins, Flight Surgeon. That concludes the medical report. We do not expect to hear another message from the crew of the first manned mission of Skylab. They have gone to bed early. Expect to get them to sleep by about 5 p.m. tonight central daylight time and they should not be up again until 1 a.m. tomorrow when they awake to go through a completion of that deactivation procedure on the orbital workshop and associated parts of the Skylab space station. Completing that deactivation before 2:30 when they are set to retire again tomorrow, 2:30 p.m. central daylight time, a short workday. They go to bed at 2:30 and 5 hours later at 7:30 p.m. central daylight time, they are awakened and then we'll begin preparations for undocking and the return to Earth. The scheduled time for splashdown just a little before 8:50 a.m. central daylight time on Friday morning. This is Skylab Control. We do not expect to hear again from the crew and this will be the last report for the evening. The next report at 1 a.m. central daylight time tomorrow morning when the crew awakens again. This is Skylab Control at 45 minutes and 37 seconds after the hour.

END OF TAPE